REMARKS

Claims 6, 15, and 24 are amended. No new claims are added. Claims 2-27, 29-48, and 50-58 are pending for consideration. In view of the following amendments and remarks, Applicant respectfully requests that this application be allowed and forwarded on to issuance.

The § 112 Rejection

Claim 48 stands rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which is, in the Office's opinion, not enabled. Specifically, the Office argues that "using only information that it receives and its on-board componentry" is not enabled. Applicant respectfully disagrees and traverses the Office's rejection.

Applicant refers the Office to the specification starting at page 53, line 4, to the section entitled "Exemplary Context/location Aware Cell Phone Architecture." This section describes but one way in which the subject matter of claim 48 can be practiced. For the Office's convenience, this section of the specification is provided in its entirety just below:

> **Exemplary Context/location Aware Cell Phone Architecture**
>
> Fig. 14 shows an exemplary cell phone architecture 1400 that can be used to implement the context/location aware cell phone described above and below. It is to be understood and appreciated that the described architecture constitutes but one exemplary architecture that is capable of implementing a context/location aware cell phone. Accordingly, other architectures can be used without departing from the spirit and scope of the claimed subject matter.
>
> Architecture 1400 includes a number of components that are similar to or the same as components that are discussed above. Accordingly, these components are not discussed in much detail

here. These components include location service module 1406 (which can also be considered as a context service module), location provider interface 1410, location providers 1412, privacy manager 1408.

A cell phone settings engine 1404 is provided and is communicatively linked to location service module 1406 and application program interface/cell phone setting module 1402. The cell phones setting engine 1404 is responsible for receiving context or location information from the location service module 1406 and responsive thereto, adjusting or otherwise manipulating a cell phone's settings so that the cell phone behaves in a manner that is consistent with acceptable behaviors for a given location. That is, cell phones exhibit behaviors that in some locations might be appropriate and in others would not be. These behaviors include, without limitation, such things as (1) being on or off, (2) having a ringer turned on or off, (3) being in vibration mode as opposed to having a ringer turned on, (4) having low, medium and high pitch volumes, (5) forwarding calls to certain phone numbers, (6) functioning in a pager mode in which voice information is converted into text information, and the like.

Consider, for example, item (1) above. In the context or location of an airplane, the majority of the time a cell phone must be off. It is acceptable in such locations to have a cell phone on when, for example, the plane is sitting at the terminal gate. But, as soon as the plane pushes back from the terminal gate, passengers are typically informed by the flight attendants that their cell phones and other electronic apparatus must be turned off. In accordance with the described embodiment, and as described above and below, each cell phone on an airplane can be informed of its context or location, and can then automatically adjust its behavior by turning itself off until it is no longer located on the airplane. Additionally, consider item (2) above. In a movie theater, as noted above, it is common courtesy to turn one's cell phone off or place it in vibrate mode. Yet, many people forget or refuse to do so. Given the techniques and structures described above and below, cell phones that are determined to be in the location of a movie theater can automatically adjust their behavior to conform to acceptable norms.

In the described embodiment, cell phone settings and associated location information can be stored on the cell phone itself. Alternately, the cell phone is configured to receive cell phone setting

information via application program interface/cell phone settings module 1402. Specifically, in one embodiment, a number of different settings enforcement entities 1418 can be provided that are responsible for transmitting cell phone settings information to cell phones that are in their vicinity. In the described example, such entities can include, without limitation, Blue Tooth entities, location beacons (as described above), diffused IR entities and the like. These entities transmit cell phone settings information that is received by the cell phone via interface 1402. This information is passed to the cell phone setting engine 1404 which then ensures that the cell phones is set to the proper setting.

Also included in this architecture is a source of location-based settings 1414, and a source of well-defined locations 1416. Location-based settings can come from any suitable source. For example, the settings can come from the settings enforcement entities mentioned above. Alternately, the location-based settings can be stored on the cell phone. Examples of this are given below. Similarly, the well-defined locations 1416 can come from any suitable source either on or off the device.

Fig. 15 is a flow diagram that describes steps in a method in accordance with the described embodiment. The method can be implemented in any suitable hardware, software, firmware, or combination thereof. In the illustrated example, the method is implemented in software that is executing on a cell phone. One exemplary software architecture that is capable of implementing this method is described above in connection with Fig. 14. Other architectures can, of course, be used.

Step 1500 receives context information that pertains to the current context of a cell phone. Any suitable methods, techniques, or cell phone components can be used to receive this information. In addition, the context information can come from any type and/or number of context providers. Further, the context information can comprise any suitable type of context information. For example, location and user constitute two examples of specific context. The cell phone processes this information and step 1502 modifies the behavior of the cell phone responsive to the context information.

Example

Fig. 16 shows an exemplary system 1600 in which a context-aware cell phone is employed. In this system, as the cell phone enters different locations, it determines its location and then modifies its behavior in accordance with behaviors that are acceptable for that location. Alternately, the cell phone can simply receive information that is then used to adjust the cell phone's settings.

In the illustrated example, the different locations include a theater 1602, restaurant 1604, work 1606, home 1608, and a sports arena 1610. Notice that for the theater, restaurant, work and sports arena there are location beacons (not specifically designated) that can provide not only location information, but other information such as, but not limited to, cell phone settings. For each illustrated cell phone, there are a number of associated behaviors that can be modified given a particular location.

Notice in this example, that at each different location the cell phone exhibits a different behavior or set of behaviors that are appropriate for that location. For example, in the theater 1602, the cell phone ringer is OFF so that other movie patrons are not disturbed. In the restaurant 1604, the ringer is ON but the volume is low so as not to disturb fellow diners. At work, the cell phone is OFF but is in a mode to forward calls to a work number. At home 1608, the cell phone ringer is ON, but it is in a mode to forward calls to the home number. At the sports arena 1610, the ringer is ON and its volume is VERY HIGH. In addition, the phone is in vibration mode. This ensures that the user is most likely to receive their calls in the noisy arena.

In one embodiment, the association of location and behaviors is simplified through the use of multiple class types and various attributes that are associated with the class types. The class types define certain high level locations types. Each class type's attributes define the behavior of the cell phone when it is in the vicinity of an instance of that class. As an example consider theater 1602 which is an instance of a class type 1. The attributes associated with a class type 1 are that the cell phone ringer is OFF. No other attributes are associated with this class type. Restaurant 1604 is an instance of a class type 2. The attributes associated with this class type are that the cell phone ringer is ON and the volume is LOW. Work 1606 is an instance of a class type 3. Attributes associated with this class

type are that the ringer is OFF and calls are automatically forwarded to an office phone. Home 1608 is an instance of a class type 4 whose attributes are that the ringer is ON and calls are automatically forwarded to a home telephone number. Sports arena 1610 is an instance of a class type 5 whose attributes include that the ringer is ON, the volume is VERY HIGH, and vibration mode is ON.

Fig. 17 is a flow diagram that describes steps in a method in accordance with the described embodiment. The method can be implemented in any suitable hardware, software, firmware, or combination thereof. In the described embodiment the method is implemented in software. In the discussion that follows, the flow chart comprises two separate but related portions. The portion on the left designated "Location Service" comprises steps that can be implemented by a location service that is not onboard a cell phone. The flow chart portion on the right designated "Cell Phone" comprises steps that can be implemented by a context- or location-aware cell phone.

Step 1700 defines one or more class types and step 1702 associates attributes with the class types. The class types are intended to describe certain types of locations where, for example, certain cell phone behaviors are desired. The attributes that are associated with the class types define the cell phone behavior that is desired for that class type. Various examples of this are given in Fig. 16. For example, for a class type 1, attributes are that the ringer is turned off, and so on. Step 1704 associates class types with multiple different locations. Each location is associated with a class type. Accordingly, at these locations, cell phone behavior of location-aware cell phones can be governed by the attributes that are associated with that class type. This provides a simple infrastructure for implementing context-aware phones. By utilizing the concept of class types, those individuals who are in charge of overseeing the context-awareness of their particular locations need not be concerned with anything other than selecting the correct class type for their location. They can do this by simply reviewing the attributes that are associated with the different class types and then selecting an appropriate class type.

Step 1706 provides information to one or more cell phones regarding a particular class type for a given location. This information can be provided in any suitable manner and is typically provided when the cell phone enters the vicinity of the location. Recall that Fig. 14

described three settings enforcement entities in the form of Blue Tooth, location beacon, and diffused IR entities. These entities can wirelessly transmit the class type information to cell phones that are in their vicinity. Step 1708 provides information to one or more cell phones regarding attributes associated with the particular class type. This step informs the cell phones of the desired settings for that particular location.

Step 1710 receives information regarding a particular class type associated with a current cell phone location and step 1712 receives information regarding one or more attributes associated with that class type. It will be appreciated and understood that only the class type or only the attributes can be transmitted to the cell phone. In the former case, the cell phone can maintain in its storage the various settings that are associated with the class types (i.e. such as in a location-based settings store 1414 (Fig. 14)). In the latter case, the cell phone can simply process the attribute information and adjust its settings accordingly. Step 1714 modifies the behavior of the cell phone based on the attributes that it receives. Accordingly, the cell phone's behavior is modified in accordance with behaviors that are determined to be appropriate for the cell phone's location.

Step 1716 determines if the cell phone has left the current location. This step can be implemented in any suitable way. For example, there may be a separate location beacon near location exits that inform the cell phones that they are leaving the premises. Alternately, the strength of a beacon signal that signals the location may grow weak to a predetermined threshold so that the cell phone knows that it is no longer at the previous location. If step 1716 determines that the cell phone has left its current location, step 1718 reverts the cell phone to its default or previous settings. If, on the other hand, step 1716 determines that the cell phone has not left its current location, the current settings are maintained (step 1720).

In accordance with the described embodiments, context-aware or location-aware cell phones are provided. These phones can determine their particular context or location and then automatically configure themselves as by adjusting their settings. Doing so ensures that a cell phone's behavior is consistent with behaviors that have been determined to be appropriate for a given location.

The above passage thus describes an exemplary cell phone's on board componentry. Additionally, the specification contains additional descriptions of componentry, such as that which is shown and described in connection with Fig. 7, which further sets out examples of how the componentry functions. Applicant submits that this description is sufficient to enable one of skill in the art to practice an embodiment covered by the claim. Accordingly, the Office's rejection is traversed.

The § 102 Rejections

Claims 2-3, 5-9, 11, 13-16, 24-27, 29-30, 54-55, and 57 stand rejected under 35 U.S.C. § 102(a) as being anticipated by PCT Pu. Number WO 99/55102 to Te-eni (hereinafter "Te-eni").

The § 103 Rejections

Claims 17-19, 21-23, and 58 stand rejected under § 103(a) as being unpatentable by Te-eni.

Claims 10, 12, and 20 stand rejected under § 103(a) as being unpatentable by Te-eni in view of Finke-Anlauff.

Claims 36, 41, and 42 stand rejected under § 103(a) as being unpatentable by Kovac et al ("Adaptive Mobile Access to Context-aware Service", IEEE 1999, pp. 190-201).

Claims 31-33, 35, 37-38, 40, and 43-47 stand rejected under § 103(a) as being unpatentable by Kovac in view of Te-eni.

Claims 34 and 39 stand rejected under § 103(a) as being unpatentable by Kovac in view of Te-eni and further in view of Finke-Anlauff.

Claims 48 and 50 stand rejected under § 103(a) as being unpatentable by U.S. Patent No. 6,389,288 to Kuwahara et al (hereinafter "Kuwahara").

Claims 4, 51-53, and 56 stand rejected under § 103(a) as being unpatentable by Te-eni.

Claims 2-5

Claim 5 recites a ***cellular phone*** comprising:

- one or more processors configured to:
  - receive information that pertains to a current context of the cellular phone;
  - *determine the current context based on the information*;
  - modify at least one behavior of the cellular phone responsive to the current context; and
- an application program interface that is configured to wirelessly receive information that is associated with the phone's context.

In making out the rejection of claim 5, the Office argues that Te-eni anticipates this claim. However, the Office fails to cite any portion of Te-eni that teaches or suggests a ***cellular phone*** configured to determine the current context.

Te-eni teaches a system that is perhaps best appreciated from its Fig. 3 and the related discussion starting on page 10, line 11. There, a so-called

regulated area 31 includes an associated front end unit 34 that can either be located within the regulated area or closely nearby. The front end unit has a number of different antennas 36-38 that receive signals from a mobile unit 32. The front end unit determines the signal strength and/or propagation delays of these signals and then communicates this information to a base station 39 which, in turn, relays the measurements to a Mobile Switching Center that includes a processor unit 30 that calculates the location of the mobile units in the vicinity of the regulated area.

Te-eni does not teach or even remotely suggest a ***cellular phone*** comprising one or more processors ***configured to determine the current context***. In point of fact, Te-eni ***teaches directly away*** from Applicant's claimed subject matter by specifically teaching that the location of the processor unit that ultimately determines the location of the mobile unit "may be either within the front end unit 34 or within the base station 39 as well as the Mobile Switching Center 30." (See Page 11, Lines 7-10.) Accordingly, for at least this reason, claim 5 is allowable.

Claims 2-4 depend from claim 5 and, as such, are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 5, are neither shown nor suggested by the references of record either singly or in combination with one another.

Claims 6-14

Claim 6 has been amended and recites a method of operating a ***cellular phone*** comprising [amended language appears in bold italics]:

- wirelessly receiving, with the cellular phone, information that pertains to a context of the cellular phone, the cellular phone being configured to receive said information from different types of context providers that provide different forms of information;
- responsive to said receiving and using only the cellular phone and its associated on-board componentry, ***determining a cellular phone context and*** modifying at least one behavior associated with the cellular phone.

In making out the rejection of this claim, the Office argues that this claim is anticipated by Te-eni. However, as noted above, nowhere does Te-eni teach or suggest a ***cellular phone*** which determines its context. As noted above, Te-eni teaches directly away from any such subject matter. Accordingly, for at least this reason, this claim is allowable.

Claims 7-14 depend from claim 6 and, as such, are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 6, are neither shown nor suggested by the references of record either singly or in combination with one another. Further, given the allowability of these claims, the rejection of claims 10 and 12 over the combination with Finke-Anlauff is not seen to add anything of significance.

<u>Claims 15-16</u>

Claim 15 has been amended and recites one or more readable media having readable instructions thereon which, when executed by a cellular

phone, cause the cellular phone to [amended language appears in bold italics]:

- wirelessly receive information from different context source information types that provide different forms of information that pertains to a context of the cellular phone; and
- responsive to receiving the information, ***determine the cellular phone context and*** modify at least one behavior associated with the cellular phone.

In making out the rejection of this claim, the Office argues that this claim is anticipated by Te-eni. However, nowhere does Te-eni teach or suggest one or more readable media having readable instructions thereon which, when executed by a cellular phone, cause the ***cellular phone to determine a cellular phone context.*** As noted above, Te-eni teaches directly away from any such subject matter. Accordingly, for at least this reason, this claim is allowable.

Claim 16 depends from claim 15 and, as such, is allowable as depending from an allowable base claim. This claim is also allowable for its own recited features which, in combination with those recited in claim 15, are neither shown nor suggested by the references of record either singly or in combination with one another.

Claims 17-23

Claim 17 recites a cellular phone comprising:

- multiple different types of location providers which collectively are configured to receive different forms of

location information *that can be used by the cellular phone to ascertain its location*; and

- one or more processors configured to:
  - receive information associated with a current location of the cellular phone; and
  - modify at least one behavior of the cellular phone responsive to the information.

In making out the rejection of this claim, the Office argues that the subject matter of this claim is either disclosed or suggested by Te-eni. Specifically, the Office argues, citing to column 10, line 27 through column 12, line 1, that Te-eni discloses a mobile phone that uses different methods for obtaining accuracy of location information. This is simply not the case. The passage cited by the Office describes a front end unit 34 that employs signal strength and/or signal propagation delays to develop information that is then sent on to a base station 39 and further to a Mobile Switching Center 30 that determines location. Applicant respectfully submits that the Office has mis-characterized this reference.

Te-eni neither teaches nor suggests a cellular phone that is capable of ascertaining its location. Applicant has reviewed the Te-eni reference and respectfully submits that this feature is neither taught nor suggested by Te-eni. In point of fact, Te-eni teaches directly away from a cellular phone that comprises multiple different types of location providers which are collectively configured to receive different forms of location information that can be used by the cellular phone to ascertain its location. Accordingly, the Office has failed to establish a *prima facie* case of obviousness. As such, this claim is allowable.

Claims 18-23 depend from claim 17 and, as such, are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 17, are neither shown nor suggested by the references of record either singly or in combination with one another. In addition, given the allowability of these claims, the rejection of claim 20 over the combination with Finke-Anlauff is not seen to add anything of significance.

Claims 24-47

Claim 24 has been amended and recites a cellular phone comprising [amended language appears in bold italics]:

- receiving means configured to wirelessly receive multiple different forms of information that pertains to a current location of a cellular phone ***and use said multiple different forms of information to ascertain the current location***; and
- means to modify at least one behavior associated with the cellular phone responsive to said information.

In making out the rejection of this claim, the Office argues that this claim is anticipated by Te-eni. However, Te-eni neither discloses nor suggests a cellular phone with receiving means configured to receive multiple different forms of information that pertains to a current location of a cellular phone and use said multiple different forms of information ***to ascertain the current location***. Accordingly, for at least this reason, this claim is allowable.

Claims 25-27 depend from claim 24 and, as such, are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 24, are neither shown nor suggested by the references of record either singly or in combination with one another.

Claims 29-30

Claim 29 recites a method of managing cellular phone behavior comprising:

- defining one or more cellular phone behaviors for a given location; and
- wirelessly transmitting information to cellular phones within that location that permits cellular phones to automatically modify their behavior while in that location, wherein said transmitting information comprises transmitting information that is associated with a *location type* that has attributes that define a cellular phone behavior.

In making out the rejection of this claim, the Office argues that Te-eni anticipates this claim. However, the Office fails to cite any portion of Te-eni that teaches or suggests transmitting information associated with a ***location type*** that has attributes that define a cellular phone behavior. Applicant has reviewed the Te-eni reference and submits that this feature is neither taught nor suggested by Te-eni.

As noted in Applicant's specification, page 57 starting at line 3, the association of location and behaviors is simplified through the use of multiple class types and various attributes that are associated with the class

types. The class types define certain high level locations types. Each class type's attributes define the behavior of the cell phone when it is in the vicinity of an instance of that class. A particularly insightful example is provided in Applicant's Fig. 16 and the related discussion appearing in the specification on page 57, line 7-17.

Te-eni neither discloses nor suggests any such subject matter. Rather, Te-eni ***teaches directly away*** from the subject matter of this claim by specifically teaching that a basic usage policy is defined for each location ***instance***. (See Table 1.) In fact, as Te-eni's Table 1 shows, there may be more than one usage policy for a particular location ***instance***. In no way does Te-eni associate the usage policy with a ***location type*** as that term is defined and used in Applicant's specification. Accordingly, for at least this reason, this claim is allowable.

Claim 30 depends from claim 29 and, as such, is allowable as depending from an allowable base claim. This claim is also allowable for its own recited features which, in combination with those recited in claim 29, are neither shown nor suggested by the references of record, either singly or in combination with one another.

Claims 31-35

Claim 31 recites a method of managing cellular phone behavior comprising:

- providing one or more transmitters that are configured to transmit information that permits cellular phones to automatically modify their behavior, *at least a portion of the*

information pertaining to one or more class types individual ones of which are associated with various attributes that define the behavior of cellular phones;

- placing the one or more transmitters in a location where a particular cellular phone behavior is desired; and
- transmitting information using said one or more transmitters.

In making out the rejection of this claim, the Office argues that the subject matter of this claim is suggested by the combination of Kovacs and Te-eni. Specifically, the Office argues that Kovacs discloses all of the limitations of this claim except for clearly disclosing one or more transmitters at the location where a particular phone behavior is desired. The Office then argues that Te-eni discloses this missing feature. Applicant respectfully but strongly disagrees.

First, Kovacs does not disclose or suggest anything similar to class types, as that term is defined and used in Applicant's specification. As noted earlier, Te-eni ***teaches directly away*** from the subject matter of this claim by specifically teaching that a basic usage policy is defined for each location ***instance***. This usage policy is not associated with a ***class type*** as that term is defined and used in Applicant's specification. Accordingly, for at least this reason, the Office has failed to establish a *prima facie* case of obviousness and this claim is allowable.

Claims 32-35 depend from claim 31 and, as such, are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 31, are neither shown nor suggested by the references of record either singly or in combination with one another. The addition of the Finke-

Anlauff reference in rejection of claim 34 is not seen to add anything of significance given the allowability of claim 31.

Claims 36-40

Claim 36 recites a method of managing cellular phone behavior comprising:

- defining one or more class types each of which can be associated with a location for which a particular cellular phone behavior is desired; and
- associating attributes with the one or more class types, the attributes defining cellular phone behavior.

As noted in the specification on page 57, lines 3-17:

> In one embodiment, the association of location and behaviors is simplified through the use of multiple class types and various attributes that are associated with the class types. ***The class types define certain high level locations types.*** Each class type's attributes define the behavior of the cell phone when it is in the vicinity of an instance of that class. As an example consider theater 1602 which is an instance of a class type 1. The attributes associated with a class type 1 are that the cell phone ringer is OFF. No other attributes are associated with this class type. Restaurant 1604 is an instance of a class type 2. The attributes associated with this class type are that the cell phone ringer is ON and the volume is LOW. Work 1606 is an instance of a class type 3. Attributes associated with this class type are that the ringer is OFF and calls are automatically forwarded to an office phone. Home 1608 is an instance of a class type 4 whose attributes are that the ringer is ON and calls are automatically forwarded to a home telephone number. Sports arena 1610 is an instance of a class type 5 whose attributes include that the ringer is ON, the volume is VERY HIGH, and vibration mode is ON.

Thus, as utilized in this claim, a class type constitutes an abstraction that simplifies the association of locations and behaviors.

In making out the rejection of this claim, the Office argues that the subject matter of this claim is suggested by Kovacs. Specifically, the Office argues that Kovacs discloses different classes for context information in section 5, page 195. Applicant respectfully disagrees that Kovac discloses ***class types*** as Applicant defines and uses the term. Within section 5, Kovacs lists various context information of interest: type of end-terminal used by user (e.g., mobile phone vs. PDA vs. desktop computer), state of the end terminal (connected / disconnected), quality-of-service of the network connection, changes in the network connection, geographic location, user preferences for notification mechanism, and user preferences for security (trusted places). This list of various context information of interest to Kovacs is in no way analogous to Applicant's class types, which define certain types of high-level locations types. Accordingly, for at least this reason, this claim is allowable.

Claims 37-40 depend from claim 36 and, as such, are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 36, are neither shown nor suggested by the references of record either singly or in combination with one another. The additions of the Te-eni reference in rejection of claims 37-39 and the Finke-Anlauff reference in rejection of claim 39 are not seen to add anything of significance, given the allowability of claim 36.

Claim 41

Claim 41 recites a method of managing cellular phone behavior comprising:

- ***defining one or more class types*** each of which can be associated with a location for which a particular cellular phone behavior is desired;
- associating attributes with the one or more class types, the attributes defining cellular phone behavior; and
- ***associating a class type with a location*** for which a particular cellular phone behavior is desired.

In making out the rejection of this claim, the Office argues that the subject matter of this claim is suggested by Kovacs. Applicant respectfully disagrees. As pointed out above, Kovacs neither discloses nor suggests a method in which one or more ***class types*** are defined and then associated with a location for which a particular cellular phone behavior is desired. Accordingly, for at least this reason, this claim is allowable.

Claims 42-47

Claim 42 recites a method of managing cellular phone behavior comprising:

- ***associating a class type with a location*** for which a particular cellular phone behavior is desired, the class type having attributes that define the cellular phone's behavior; and
- ***wirelessly transmitting information pertaining to the class type*** for reception by cellular phones in the location, the information being configured to be used by cellular phones to automatically adjust one or more behaviors.

In making out the rejection of this claim, the Office argues that the subject matter of this claim is suggested by Kovacs. Applicant respectfully disagrees. As pointed out above, Kovacs neither discloses nor suggests a method in which a class type is associated with a location for which a particular cellular phone behavior is desired. Accordingly, for at least this reason, this claim is allowable.

Claims 43-47 depend from claim 42 and, as such, are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 42, are neither shown nor suggested by the references of record either singly or in combination with one another. The addition of the Te-eni reference in rejection of claims 43-47 is not seen to add anything of significance, given the allowability of claim 42.

Claim 48

Claim 48 recites a location-aware cell phone that can, ***using only location information that it receives and its on-board componentry***, determine its location and automatically adjust one or more of its settings so that it behaves in a manner that has been defined for that location.

In making out the rejection of this claim, the Office argues that the subject matter of this claim is suggested by Kuwahara. Specifically, the Office argues that "unless call answer options are desired, only reported location and on-board componentry (i.e., refs. 1-10 in Fig. 1) are used for adjusting phone setting." The Office then argues that it would have been

obvious to modify Kuwahara for using only reported location and on-board componentry for adjusting phone setting. Applicant respectfully but strongly disagrees.

Kuwahara defines "registered process executing means" in its "Summary" section beginning in column 4, line 65. This excerpt is set forth below:

> The registered process executing means may comprise call incoming alert mode selecting means for ***selecting a call incoming alert mode***.
>
> With this construction, the user of the mobile communication terminal can set a call incoming mode of the mobile communication terminal to a ringing tone, a vibrator or a display so that the selected mode is executed automatically depending on the location of the user.
>
> The registered process executing means may comprise call incoming refusal selecting means for selecting one of ***setting and cancellation of call incoming refusal***.
>
> With this construction, the user of the mobile communication terminal can set or cancel the "call incoming refusal" execution service so that the selected mode is automatically depending on the location of the user.
>
> The registered process executing means may comprise answer phone selecting means for selecting one of ***setting and cancellation of an answer phone service.***
>
> With this construction, the user of the mobile communication terminal can set or cancel the "answer phone" execution service so that the selected mode is automatically executed depending on the location of the user.
>
> The registered process executing means may comprise call destination terminal setting execution means for executing ***setting of a call destination terminal***.
>
> With this construction, for example, the user of the mobile

communication terminal can set an incoming call destined to a portable telephone set to automatically arrive at a domestic telephone set.

The registered process executing means may comprise screening setting means for ***setting screening for variable call incoming mode*** that depends on an attribute assigned to a call originator and a condition of the call originator.

With this construction, the user of the mobile communication terminal can set the screening to a private mode for preventing a business call from arriving when the user is at home or to a work mode for preventing a private call from arriving while the user is at work so that the selected mode is executed automatically depending on the location of the user.

Thus, every embodiment taught by Kuwahara involves "call answer options." Every embodiment of the registered process executing means relies on a Personal Number Server 41 (Figs. 6 and 19) -- componentry that is not on-board its mobile communication terminal unit. Applicant submits that nothing in Kuwahara teaches or suggests a location-aware cell phone that can, ***using only location information that it receives and its on-board componentry***, determine its location and automatically adjust one or more of its settings so that it behaves in a manner that has been defined for that location. In fact, Kuwahara ***teaches directly away*** from the subject matter of claim 48 by its reliance on a component that is not on-board the mobile communication terminal unit. Accordingly, for at least this reason, this claim is allowable.

Claim 50

Claim 50 recites a method of operating a cellular phone comprising:

- providing a cellular phone; and
- determining, with the cellular phone, a present cellular phone location wherein said determining comprises:
  - receiving location information;
  - accessing one or more hierarchical tree structures having nodes that correspond to locations; and
  - using the location information to traverse at least portions of the one or more tree structures to ascertain the present location.

In making out the rejection of this claim, the Office argues that the subject matter of this claim is suggested by Kuwahara. Specifically, the Office argues that it would have been obvious to use a hierarchical traversable tree structure in order to traverse from the reported location of Kuwahara's zone area to get a corresponding user-defined area vector name. Applicant respectfully but strongly disagrees.

There appears to be no teaching or suggestion of a hierarchical structure to Kuwahara's zones (see Figs. 12 and 13). Hence, it would not have been obvious to use a hierarchical traversable tree structure for the zones themselves. Similarly, there appears to be no teaching or suggestion of a hierarchical structure to Kuwahara's user-defined area names (see Figs. 12 and 13) or user-defined area vector names (see Fig. 21). Hence, it would not have been obvious to use a hierarchical traversable tree structure for the user-defined area names or user-defined area vector names either. Furthermore, each instance of Kuwahara's reported location information (see Figs. 12 and 13) or variation of reported location information (see Fig. 21) is associated with at most one unique user-defined name, whether an area name or an area vector name. Therefore, it would ***not*** have been

obvious to one skilled in the art to use a hierarchical traversable tree structure to do a simple lookup function based on non-hierarchical keys, particularly when the target data consists of at most one item for a given key. Accordingly, for at least this reason, this claim is allowable.

Claims 51-53

Claim 51 recites a ***cellular phone*** comprising:

- one or more computer-readable media;
- one or more hierarchical traversable tree structures resident on the computer-readable media, the tree structures comprising individual nodes each of which being associated with a phone context; and
- one or more processors configured to:
  - receive information that pertains to a current context of the cellular phone;
  - automatically determine the current context based on the information by traversing at least one node on one of the trees; and
  - modify at least one behavior of the cellular phone responsive to the current context.

In making out the rejection of this claim, the Office argues that the subject matter of this claim is suggested by Te-eni. However, the Office fails to cite any portion of Te-eni that teaches or suggests a ***cellular phone*** configured to automatically determine the current context. Applicant has reviewed the Te-eni reference and argues that this feature is neither taught nor suggested by Te-eni. Accordingly, for at least this reason, this claim is allowable. In addition, the Office argues that since the use of a hierarchical

traversable tree structure is known, in general, it would be obvious to incorporate its use in Te-eni's system.

Applicant submits that the Office has failed to establish a *prima facie* case of obviousness for reasons that include a complete disregard for the court-established standards for establishing obviousness. Specifically, the motivation to modify a reference must come from the reference itself or the prior art generally. Additionally, there must be *particular findings* that establish why a skilled artisan would be motivated to modify a particular reference. The Office's statement that "since the use of hierarchical traversable tree structures is known, hence, when receiving the instructed call indication mode (i.e. switching from ring to vibration mode), it would have been obvious ...to use a hierarchical traversable tree structure in order to traverse from one mode to another mode to set the phone to operate in the instructed mode" falls far short of the mark. Accordingly, for at least this additional reason, this claim is allowable.

Claims 52 and 53 depend from claim 51 and, as such, are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 51, are neither shown nor suggested by the references of record either singly or in combination with one another.

Claims 54-57

Claim 54 recites a ***cellular phone*** comprising:

- a context service module that is configured to receive different forms of information from multiple different types of context providers; and
- one or more processors associated with the context service module and configured to:
  - receive information that pertains to a current context of the cellular phone;
  - determine the current context based on the information; and
  - modify at least one behavior of the cellular phone responsive to the current context.

In making out the rejection of this claim, the Office argues that this claim is anticipated by Te-eni. However, the Office fails to cite any portion of Te-eni that teaches or suggests a ***cellular phone*** configured to determine the current context. The applicant has reviewed the Te-eni reference and submits that this feature is neither taught nor suggested by Te-eni. In point of fact, Te-eni teaches directly away from the subject matter of this claim. Accordingly, for at least this reason, this claim is allowable.

Claims 55-57 depend from claim 54 and, as such, are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 54, are neither shown nor suggested by the references of record either singly or in combination with one another.

Claim 58

Claim 58 recites a ***cellular phone*** comprising:

- location provider means for receiving different forms of location information;

- means for ascertaining a location from the location information; and
- means for modifying at least one behavior associated with the cellular phone responsive to ascertaining said location.

In making out the rejection of this claim, the Office argues that the subject matter of this claim is suggested by Te-eni. However, the Office fails to cite any portion of Te-eni that teaches or suggests a ***cellular phone*** with ***means for ascertaining a location***. The applicant has reviewed the Te-eni reference and submits that this feature is neither taught nor suggested by Te-eni. In point of fact, Te-eni teaches directly away from any such subject matter. Accordingly, for at least this reason, this claim is allowable.

Conclusion

All of the claims are in condition for allowance. Accordingly, Applicant requests a Notice of Allowability be issued forthwith. If the Office's next anticipated action is to be anything other than issuance of a Notice of Allowability, Applicant respectfully requests a telephone call for the purpose of scheduling an interview.

Respectfully submitted,

Dated: 7/7/03

By: _____
Lance R. Sadler
Reg. No. 38,605
(509) 324-9256

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